


DRE

Electric commercial water heater

DRE - 52/80/120

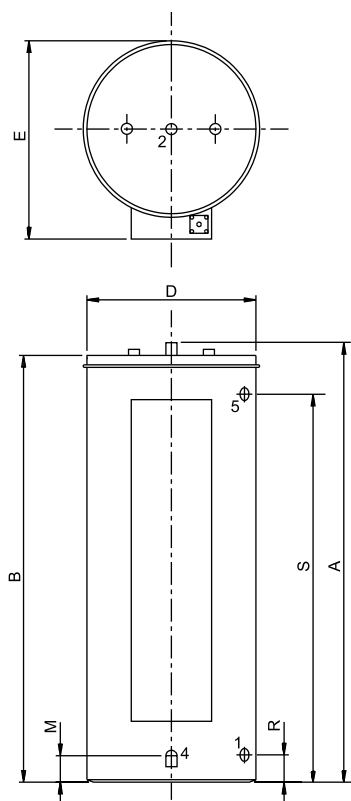
A tall, white, cylindrical electric commercial water heater with a grey control panel on the left side. It is shown against a white background with a green decorative wave at the bottom.

Three phase electric water heater, primarily for commercial applications • Three to nine Incoloy-sheathed elements with a maximum rating of 54 kW • Each element is independently controlled via its own control thermostat (adjustable: 49 - 82 °C) and a manually resettable high-limit thermostat • Cascade control of the elements for more efficient and faster heating-up times • All elements and thermostats are fuse-protected • PermaGlas Ultra Coat second-generation glass coating technology helps to prevent corrosion • Replaceable magnesium anode • Safety float switch • Optional ancillaries: Unvented kits • Destratification pump kit • Powered anodes • Time controller • Alternate kW loadings

Technical specifications

		DRE 52-9	DRE 52-18	DRE 52-36	DRE 80-9	DRE 80-18	DRE 80-36	DRE 80-54	DRE 120-9	DRE 120-18	DRE 120-36	DRE 120-54
Electrical data												
Input	kW	9	18	36	9	18	36	54	9	18	36	54
Current	A	11-13	23-25	46-50	11-13	23-25	46-50	69-75	11-13	23-25	46-50	69-75
Elements	-	3	3	6	3	3	6	9	3	3	6	9
Power supply	VAC/Hz	415 / 50										
Draw-off capacity												
Storage capacity	l	200			300				450			
Max. temperature setting	°C	82	82	82	82	82	82	82	82	82	82	82
30 min. ΔT=44°C	l	297	377	535	406	486	644	802	570	649	808	966
60 min. ΔT=44°C	l	385	557	887	494	837	996	1330	658	825	1159	1494
90 min. ΔT=44°C	l	473	728	1238	582	877	1348	1858	746	1001	1511	2021
120 min. ΔT=44°C	l	561	904	1590	670	1013	1699	2385	834	1177	1863	2549
Continuous ΔT=44°C	l/h	176	352	704	176	352	704	1055	176	352	704	1055
Heating-up time ΔT=44°C	min.	68	34	17	102	51	26	17	153	77	38	26
30 min. ΔT=50°C	l	262	331	471	358	427	567	706	502	571	711	850
60 min. ΔT=50°C	l	339	486	780	435	582	876	1170	579	726	1020	1314
90 min. ΔT=50°C	l	416	641	1090	512	737	1186	1635	656	881	1330	1779
120 min. ΔT=50°C	l	494	796	1399	590	892	1495	2099	734	1036	1639	2243
Continuous ΔT=50°C	l/h	155	310	619	155	310	619	929	155	310	619	929
Heating-up time ΔT=50°C	min.	78	39	19	116	58	29	19	174	87	44	29
30 min. ΔT=55°C	l	238	301	428	325	388	515	642	456	519	646	773
60 min. ΔT=55°C	l	308	442	709	396	529	797	1064	526	660	927	1195
90 min. ΔT=55°C	l	379	583	991	466	670	1078	1486	597	801	1209	1617
120 min. ΔT=55°C	l	449	723	1272	536	811	1360	1908	667	942	1490	2039
Continuous ΔT=55°C	l/h	141	281	563	141	281	563	844	141	281	563	844
Heating-up time ΔT=55°C	min.	85	43	21	128	64	32	21	192	96	48	32
General												
Anodes	-	2			2				2			
Maximum working pressure	bar	8			8				8			
Maximum weight	kg	273			410				610			
Shipping data												
Weight empty	kg	73			110				160			
Weight incl. packaging	kg	86			125				176			
Width packaging	mm	630			700				890			
Height packaging	mm	1640			1770				1760			
Depth packaging	mm	750			870				1050			

Dimensions



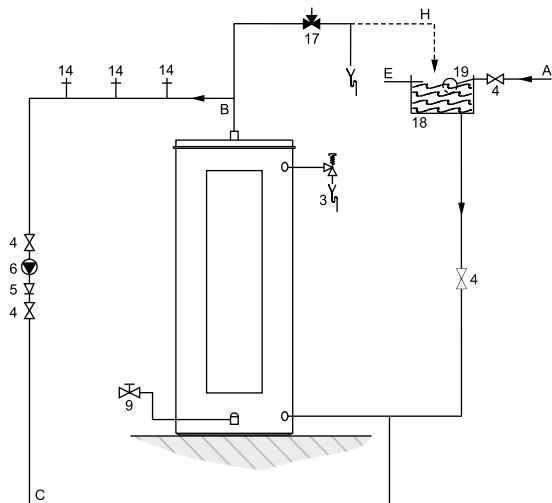
	DRE 52	DRE 80	DRE 120
A	1465	1570	1610
B	1410	1530	1580
D	550	640	750
E	690	800	910
M	120	100	100
R	100	100	100
S	1210	1310	1380

1	Cold water	1 1/4-14 NPT
2	Hot water	1 1/4-14 NPT
4	Tank drain valve	3/4-14 NPT
5	T&P valve	3/4-14 NPT
6	Anode connection	Rp 3/4

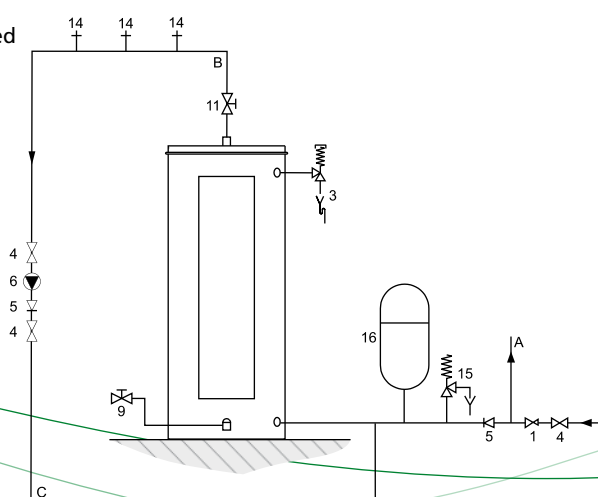
Dimensions in mm. All DRE water heaters receive a three years warranty on the tank and one year on parts.

Installation diagrams

Vented



Unvented



- 1 Pressure reducing valve
- 3 T&P valve
- 4 Stop valve
- 5 Non-return valve
- 6 Circulation pump
- 9 Drain valve
- 11 Isolating valve
- 14 Hot water outlets
- 15 Expansion relief valve
- 16 Expansion vessel
- 17 Three way valve
- 18 Water tank
- 19 Float valve

- A Cold water
- B Hot water
- C Return circulation
- E Overflow pipe
- H Expansion vent pipe

A.O. Smith unvented system kits utilise combination valves

Further installation and connection details can be found in the Installation & Commissioning Manual.



[illegible]

- ① Black
- ② Red
- ③ Blue
- ④ Brown
- ⑤ White

6 elements

9 elements

The diagram illustrates a 3-phase motor control system. At the top, a 380-415V AC 50Hz supply is connected to three phases (A, B, C) and a neutral line (N). The phases are connected to three sets of three-phase contactors (A, B, C) and three sets of three-phase thermal relays (D, E, F). The contactors are controlled by a stop button (H) and a start button (G). The thermal relays are controlled by a stop button (H) and a start button (G). The motor (M) is connected to the contactors and thermal relays. The diagram includes a fuse (F) and a circuit breaker (C) for protection. The motor is connected to the contactors and thermal relays. The diagram includes a fuse (F) and a circuit breaker (C) for protection. The motor is connected to the contactors and thermal relays. The diagram includes a fuse (F) and a circuit breaker (C) for protection.